Author index

Ali, A.M.M. 201
Alvarez-Icaza, M. 191
Anita, 71
Arai, K. 159

Blank, M. 109, 115
Bojarska, E. 181
Broude, N. 19

Chang, M. 151
Czochralska, B. 171, 181

Dai, R. 115
Darżynkiewicz, E. 181
Dauphin, G. 83
Debouzy, J.C. 95
Delort, A.M. 83

Fauvelle, F. 95
Fukuyama, S. 159

Gadelle, A. 95
Ghosh, P.M. 121
Giaever, I. 121
Gomathi, H. 101
Goodman, R. 19, 109, 115
Goyal, R.N. 75
Guyot, J. 83

Henderson, A. 115
Henderson, A.S. 19
Hermann, S. 165
Hetz, S.K. 165
Hianik, T. 11

Homma, T. 67
Hong, F.H. 151
Hong, F.T. 135, 143, 151

Janssen, A.P.M. 55
Janssen, L.J.J. 55
Jeminet, G. 83

Kaden, H. 165
Karabakhtsian, R. 19
Kawczyński, W. 171
Keese, C.R. 121
Khorkova, O. 109, 115
Kim, O.-S. 61
Kinjo, J.-e. 171
Koopal, C.G.J. 45
Kusu, F. 159
Kusuda, K. 61

Lin, H. 115

Matsue, T. 91
Matsuoka, H. 67
McCoy, L.E. 143
Michaile, S. 135, 143
Murthy, A.S.N. 71

Nakamura, H. 205
Nardin, R. 95
Needleman, R.B. 151
Nemoto, Y. 67
Ni, B. 151
Nolte, R.J.M. 45

Oelßner, W. 165
Okajima, T.L. 143

Prabhakara Rao, G. 101

Rochdi, M. 83

Saito, M. 67
Sancelme, M. 83
Sargent, D.F. 11
Schmid, R.D. 191
Shalts, N. 19
Shiku, H. 91
Sokirko, A.V. 25
Soo, L. 115
Sugawara, K. 205

Takamura, K. 159
Tanaka, S. 205
Torrence, P.F. 171
Trchounian, A.A. 1
Turina, P. 31

Uchida, I. 91

Van Stroe-Biezen, S.A.M. 55
Vijayalatha, S. 101

Wasserthal, L.T. 165
Weisbrot, D. 115
Wieczorek, Z. 181

Yamada, H. 91

Author index

Ali, A.M.M. 201
Alvarez-Icaza, M. 191
Anita, 71
Arai, K. 159

Blank, M. 109, 115
Bojarska, E. 181
Broude, N. 19

Chang, M. 151
Czochralska, B. 171, 181

Dai, R. 115
Darżynkiewicz, E. 181
Dauphin, G. 83
Debouzy, J.C. 95
Delort, A.M. 83

Fauvelle, F. 95
Fukuyama, S. 159

Gadelle, A. 95
Ghosh, P.M. 121
Giaever, I. 121
Gomathi, H. 101
Goodman, R. 19, 109, 115
Goyal, R.N. 75
Guyot, J. 83

Henderson, A. 115
Henderson, A.S. 19
Hermann, S. 165
Hetz, S.K. 165
Hianik, T. 11

Homma, T. 67
Hong, F.H. 151
Hong, F.T. 135, 143, 151

Janssen, A.P.M. 55
Janssen, L.J.J. 55
Jeminet, G. 83

Kaden, H. 165
Karabakhtsian, R. 19
Kawczyński, W. 171
Keese, C.R. 121
Khorkova, O. 109, 115
Kim, O.-S. 61
Kinjo, J.-e. 171
Koopal, C.G.J. 45
Kusu, F. 159
Kusuda, K. 61

Lin, H. 115

Matsue, T. 91
Matsuoka, H. 67
McCoy, L.E. 143
Michaile, S. 135, 143
Murthy, A.S.N. 71

Nakamura, H. 205
Nardin, R. 95
Needleman, R.B. 151
Nemoto, Y. 67
Ni, B. 151
Nolte, R.J.M. 45

Oelßner, W. 165
Okajima, T.L. 143

Prabhakara Rao, G. 101

Rochdi, M. 83

Saito, M. 67
Sancelme, M. 83
Sargent, D.F. 11
Schmid, R.D. 191
Shalts, N. 19
Shiku, H. 91
Sokirko, A.V. 25
Soo, L. 115
Sugawara, K. 205

Takamura, K. 159
Tanaka, S. 205
Torrence, P.F. 171
Trchounian, A.A. 1
Turina, P. 31

Uchida, I. 91

Van Stroe-Biezen, S.A.M. 55
Vijayalatha, S. 101

Wasserthal, L.T. 165
Weisbrot, D. 115
Wieczorek, Z. 181

Yamada, H. 91

Subject index

Adherent cells
Morphological response of mammalian cells to pulsed ac fields (Ghosh et al.) 121
Adipose tissue model
Electrochemical behaviour of α-tocopherol in a thin film of Nujol, a model of adipose tissue (Kim, Kusuda) 61
AIDS dementia
Electrochemical study of a pyridine analog of 3′-azido-3′-deoxythymidine (AZT) related to AIDS dementia (Kawczyński et al.) 171
Anaerobic bacteria
A direct interaction between the H^+–F_1F_0-ATPase and the K^+ transport within the membrane of anaerobically grown bacteria (Trchounian) 1
Anaesthetics
Effects of biologically important substances on spontaneous electrical potential oscillation across a liquid membrane of a water|octanol|water system (Arai et al.) 159
Analytical diagnosis
Electrochemical study of a pyridine analog of 3′-azido-3′-deoxythymidine (AZT) related to AIDS dementia (Kawczyński et al.) 171
ATP hydrolysis
Influence of the transmembrane electrochemical proton gradient on catalysis and regulation of the H^+-ATP synthase from *Rhodobacter capsulatus* (Turina) 31
H^+-ATP synthase
Influence of the transmembrane electrochemical proton gradient on catalysis and regulation of the H^+-ATP synthase from *Rhodobacter capsulatus* (Turina) 31
ATP synthesis
Influence of the transmembrane electrochemical proton gradient on catalysis and regulation of the H^+-ATP synthase from *Rhodobacter capsulatus* (Turina) 31
Avidin–biotin binding
Electrochemical determination of avidin–biotin binding using an electroactive biotin derivative as a marker (Sugawara et al.) 205
Axially symmetric pore
Distribution of the electric field in an axially symmetric pore (Sokirko) 25

Bacteriorhodopsin
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part I. Effect of multilayer stacking and prolonged drying (Michaile, Hong) 135
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part II. Effect of fluorescamine treatment (Okajima et al.) 143
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part III. Effect of the point mutation aspartate 212 → asparagine 212 (Hong et al.) 151
Biochemistry
Oxidation chemistry and biochemistry of some biologically important purines and indoleamines (Goyal) 75
Biomembranes
Effects of biologically important substances on spontaneous electrical potential oscillation across a liquid membrane of a water|octanol|water system (Arai et al.) 159
Biotin hydrazide
Electrochemical determination of avidin–biotin binding using an electroactive biotin derivative as a marker (Sugawara et al.) 205

Cell membranes
Correlation between the amplitude of plasma membrane fluctuations and the response of cells to electric and magnetic fields (Broude et al.) 19
Cellular stress
Changes in polypeptide distribution stimulated by different levels of electromagnetic and thermal stress (Blank et al.) 109
Cephalosporins
Polarographic determination of cephradine in aqueous and biological media (Ali) 201
Cephradine
Polarographic determination of cephradine in aqueous and biological media (Ali) 201
Chemical modification
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part II. Effect of fluorescamine treatment (Okajima et al.) 143
Chlorpromazine–paracetamol
Chlorpromazine–paracetamol drug interactions—a voltammetric study (Vijayalatha et al.) 101
Cl^- dependence
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part III. Effect of the point mutation aspartate 212 → asparagine 212 (Hong et al.) 151
Clinical diagnosis
Electrochemical study of a pyridine analog of 3′-azido-3′-deoxythymidine (AZT) related to AIDS dementia (Kawczyński et al.) 171
CO_2 stress
Analysis of electric and electrochemical connection between leaf cells of *Tradescantia virginiana* L. that responds to CO_2 stress by changing intracellular potential (Homma et al.) 67
Cyclodextrin
Nuclear magnetic resonance study of a polar headgroup determined α-cyclodextrin–phospholipid association (Fauvelle et al.) 95

Diaphorase monolayer
Microvoltammetric characterization of diaphorase monolayer at glass surfaces (Yamada et al.) 91
Dihydropyridine analog of AZT (HPAZT)
Electrochemical study of a pyridine analog of 3′-azido-3′-deoxythymidine (AZT) related to AIDS dementia (Kawczyński et al.) 171

ECIS
Morphological response of mammalian cells to pulsed ac fields (Ghosh et al.) 121
E. coli
A direct interaction between the H^+–F_1F_0-ATPase and the K^+ transport within the membrane of anaerobically grown bacteria (Trchounian) 1
Electrical impedance
Morphological response of mammalian cells to pulsed ac fields (Ghosh et al.) 121
Electric connection
Analysis of electric and electrochemical connection between leaf cells of *Tradescantia virginiana* L. that responds to CO_2 stress by changing intracellular potential (Homma et al.) 67
Electroactive biotin derivative
Electrochemical determination of avidin–biotin binding using an electroactive biotin derivative as a marker (Sugawara et al.) 205
Electrochemical assay
Electrochemical determination of avidin–biotin binding using an electroactive biotin derivative as a marker (Sugawara et al.) 205
Electrochemical connection
Analysis of electric and electrochemical connection between leaf cells of *Tradescantia virginiana* L. that responds to CO_2 stress by changing intracellular potential (Homma et al.) 67
Electrochemical reduction
Electrochemical study of a pyridine analog of 3′-azido-3′-deoxythymidine (AZT) related to AIDS dementia (Kawczyński et al.) 171
Electromagnetic fields
Correlation between the amplitude of plasma membrane fluctuations and the response of cells to electric and magnetic fields (Broude et al.) 19
Changes in polypeptide distribution stimulated by different levels of electromagnetic and thermal stress (Blank et al.) 109
Electron transfer
Observation of direct electron transfer from the active center of glucose oxidase to a graphite electrode achieved through the use of mild immobilization (Alvarez-Icaza, Schmid) 191
Enzyme catalysis
A kinetic study of soluble glucose oxidase using a rotating-disc electrode (Van Stroe-Biezen et al.) 55
Enzyme kinetics
Influence of the transmembrane electrochemical proton gradient on catalysis and regulation of the H^+-ATP synthase from *Rhodobacter capsulatus* (Turina) 31
Enzymes
Electrochemical and spectroscopic study of redox transformation of the 7-methylguanine analog of coenzyme NAD^+ (Bojarska et al.) 181

Fast Photoelectric Effect
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part I. Effect of multilayer stacking and prolonged drying (Michaile, Hong) 135
Fast photoelectric effect
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part II. Effect of fluorescamine treatment (Okajima et al.) 143
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part III. Effect of the point mutation aspartate 212 → asparagine 212 (Hong et al.) 151
Fibroblasts
Morphological response of mammalian cells to pulsed ac fields (Ghosh et al.) 121
Field distribution
Distribution of the electric field in an axially symmetric pore (Sokirko) 25
Fluorescamine
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part II. Effect of fluorescamine treatment (Okajima et al.) 143

Glass surfaces
Microvoltammetric characterization of diaphorase monolayer at glass surfaces (Yamada et al.) 91
Glucose oxidase
Kinetic study of the performance of third-generation biosensors (Koopal, Nolte) 45
A kinetic study of soluble glucose oxidase using a rotating-disc electrode (Van Stroe-Biezen et al.) 55
Observation of direct electron transfer from the active center of glucose oxidase to a graphite electrode achieved through the use of mild immobilization (Alvarez-Icaza, Schmid) 191
Gold electrodes
Morphological response of mammalian cells to pulsed ac fields (Ghosh et al.) 121
Graphite electrode
Observation of direct electron transfer from the active center of glucose oxidase to a graphite electrode achieved through the use of mild immobilization (Alvarez-Icaza, Schmid) 191

Heat shock
Changes in polypeptide distribution stimulated by different levels of electromagnetic and thermal stress (Blank et al.) 109
Heat shock proteins
Increased levels of hsp70 transcripts induced when cells are exposed to low frequency electromagnetic fields (Goodman et al.) 115
Human erythrocytes
A new Na^+ and K^+ carrier from chemically modified monensin studied in human erythrocytes by ^{23}Na nuclear magnetic resonance, K^+ atomic absorption and H^+ potentiometry (Rochdi et al.) 83
Hydrogen peroxide
A kinetic study of soluble glucose oxidase using a rotating-disc electrode (Van Stroe-Biezen et al.) 55
Hypnotic drugs
Effects of biologically important substances on spontaneous electrical potential oscillation across a liquid membrane of a water|octanol|water system (Arai et al.) 159

Indoleamines
Oxidation chemistry and biochemistry of some biologically important purines and indoleamines (Goyal) 75
Intercellular connection
Analysis of electric and electrochemical connection between leaf cells of *Tradescantia virginiana* L. that responds to CO_2 stress by changing intracellular potential (Homma et al.) 67
Isoelectric point
Changes in polypeptide distribution stimulated by different levels of electromagnetic and thermal stress (Blank et al.) 109

Kinetic parameters
A kinetic study of soluble glucose oxidase using a rotating-disc electrode (Van Stroe-Biezen et al.) 55

Lepidopterous pupae
Direct oxygen measurements in the tracheal system of lepidopterous pupae using miniaturized amperometric sensors (Hetz et al.) 165

Lipids
Effects of biologically important substances on spontaneous electrical potential oscillation across a liquid membrane of a water|octanol|water system (Arai et al.) 159

Membrane
Comparative analysis of the methods for measurement of membrane surface potential of planar lipid bilayers (Sargent, Hianik) 11
7-Methylguanine derivatives
Electrochemical and spectroscopic study of redox transformation of the 7-methylguanine analog of coenzyme NAD^+ (Bojarska et al.) 181
1-Methylnicotinic acid (1-MNA)
Electrochemical study of a pyridine analog of 3′-azido-3′-deoxythymidine (AZT) related to AIDS dementia (Kawczyński et al.) 171
Microporous matrix
Kinetic study of the performance of third-generation biosensors (Koopal, Nolte) 45
Microvoltammetry
Microvoltammetric characterization of diaphorase monolayer at glass surfaces (Yamada et al.) 91
Miniaturized amperometric sensors
Direct oxygen measurements in the tracheal system of lepidopterous pupae using miniaturized amperometric sensors (Hetz et al.) 165
Modified electrode
Tetracyanoquinodimethane (TCNQ) modified electrode for NADH oxidation (Murthy, Anita) 71
Modified momensin
A new Na^+ and K^+ carrier from chemically modified monensin studied in human erythrocytes by ^{23}Na nuclear magnetic resonance, K^+ atomic absorption and H^+ potentiometry (Rochdi et al.) 83
Molecular weight
Changes in polypeptide distribution stimulated by different levels of electromagnetic and thermal stress (Blank et al.) 109

NAD^+
Electrochemical and spectroscopic study of redox transformation of the 7-methylguanine analog of coenzyme NAD^+ (Bojarska et al.) 181
NADH oxidation
Tetracyanoquinodimethane (TCNQ) modified electrode for NADH oxidation (Murthy, Anita) 71
Nuclear magnetic resonance
A new Na^+ and K^+ carrier from chemically modified monensin studied in human erythrocytes by ^{23}Na nuclear magnetic resonance, K^+ atomic absorption and H^+ potentiometry (Rochdi et al.) 83
Nuclear magnetic resonance study of a polar headgroup determined α-cyclodextrin–phospholipid association (Fauvelle et al.) 95

Oxidation chemistry
Oxidation chemistry and biochemistry of some biologically important purines and indoleamines (Goyal) 75
Oxygen determination
Direct oxygen measurements in the tracheal system of lepidopterous pupae using miniaturized amperometric sensors (Hetz et al.) 165

Phospholipid
Nuclear magnetic resonance study of a polar headgroup determined α-cyclodextrin–phospholipid association (Fauvelle et al.) 95
Photochemical oxidation
Electrochemical study of a pyridine analog of 3′-azido-3′-deoxythymidine (AZT) related to AIDS dementia (Kawczyński et al.) 171
Photocurrent
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part I. Effect of multilayer stacking and prolonged drying (Michaile, Hong) 135
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part II. Effect of fluorescamine treatment (Okajima et al.) 143
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part III. Effect of the point mutation aspartate 212 → asparagine 212 (Hong et al.) 151
Photovoltage
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part I. Effect of multilayer stacking and prolonged drying (Michaile, Hong) 135
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part II. Effect of fluorescamine treatment (Okajima et al.) 143
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part III. Effect of the point mutation aspartate 212 → asparagine 212 (Hong et al.) 151
Planar lipid bilayer
Comparative analysis of the methods for measurement of membrane surface potential of planar lipid bilayers (Sargent, Hianik) 11
Point mutation
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part III. Effect of the point mutation aspartate 212 → asparagine 212 (Hong et al.) 151
Polymerase chain reaction
Correlation between the amplitude of plasma membrane fluctuations and the response of cells to electric and magnetic fields (Broude et al.) 19
Polypeptides
Changes in polypeptide distribution stimulated by different levels of electromagnetic and thermal stress (Blank et al.) 109
Protein Film
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part I. Effect of multilayer stacking and prolonged drying (Michaile, Hong) 135
Purines
Oxidation chemistry and biochemistry of some biologically important purines and indoleamines (Goyal) 75
Purple Membranes
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part I. Effect of multilayer stacking and prolonged drying (Michaile, Hong) 135
Purple membranes
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part II. Effect of fluorescamine treatment (Okajima et al.) 143
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part III. Effect of the point mutation aspartate 212 → asparagine 212 (Hong et al.) 151

Redox behaviour
Electrochemical and spectroscopic study of redox transformation of the 7-methylguanine analog of coenzyme NAD^+ (Bojarska et al.) 181

Rhodobacter capsulatus
Influence of the transmembrane electrochemical proton gradient on catalysis and regulation of the H^+-ATP synthase from *Rhodobacter capsulatus* (Turina) 31
mRNA
Increased levels of hsp70 transcripts induced when cells are exposed to low frequency electromagnetic fields (Goodman et al.) 115
RNA transcripts
Correlation between the amplitude of plasma membrane fluctuations and the response of cells to electric and magnetic fields (Broude et al.) 19
Rotating-disc electrode
A kinetic study of soluble glucose oxidase using a rotating-disc electrode (Van Stroe-Biezen et al.) 55

Site-directed mutagenesis
Component analysis of the fast photoelectric signal from model bacteriorhodopsin membranes. Part III. Effect of the point mutation aspartate 212 → asparagine 212 (Hong et al.) 151
Spontaneous electrical potential oscillation
Effects of biologically important substances on spontaneous electrical potential oscillation across a liquid membrane of a water|octanol|water system (Arai et al.) 159
Stress response
Increased levels of hsp70 transcripts induced when cells are exposed to low frequency electromagnetic fields (Goodman et al.) 115
Surface potential
Comparative analysis of the methods for measurement of membrane surface potential of planar lipid bilayers (Sargent, Hianik) 11

Tetracyanoquinodimethane
Tetracyanoquinodimethane (TCNQ) modified electrode for NADH oxidation (Murthy, Anita) 71
Thin film
Electrochemical behaviour of α-tocopherol in a thin film of Nujol, a model of adipose tissue (Kim, Kusuda) 61
Third-generation biosensors
Kinetic study of the performance of third-generation biosensors (Koopal, Nolte) 45
α-Tocopherol
Electrochemical behaviour of α-tocopherol in a thin film of Nujol, a model of adipose tissue (Kim, Kusuda) 61
Tracheal system
Direct oxygen measurements in the tracheal system of lepidopterous pupae using miniaturized amperometric sensors (Hetz et al.) 165
Tradescantia virginiana
Analysis of electric and electrochemical connection between leaf cells of *Tradescantia virginiana* L. that responds to CO_2 stress by changing intracellular potential (Homma et al.) 67
Transcription
Increased levels of hsp70 transcripts induced when cells are exposed to low frequency electromagnetic fields (Goodman et al.) 115
Translation
Increased levels of hsp70 transcripts induced when cells are exposed to low frequency electromagnetic fields (Goodman et al.) 115
Transport systems
A direct interaction between the H^+–F_1F_0-ATPase and the K^+ transport within the membrane of anaerobically grown bacteria (Trchounian) 1

Voltammetry
Chlorpromazine–paracetamol drug interactions—a voltammetric study (Vijayalatha et al.) 101
Polarographic determination of cephradine in aqueous and biological media (Ali) 201

Water|octanol|water system
Effects of biologically important substances on spontaneous electrical potential oscillation across a liquid membrane of a water|octanol|water system (Arai et al.) 159